

BAB V

KESIMPULAN DAN SARAN

V.1 Kesimpulan

Dari hasil penelitian dapat dibuat kesimpulan sebagai berikut:

1. Jumlah stage dalam proses delignifikasi dan proses *bleaching* dalam pretreatment mempengaruhi kadar selulosa yang dihasilkan.
2. Penggunaan larutan NaClO pada proses *bleaching* memberikan perolehan kadar selulosa paling tinggi yaitu sebesar 73,56% dengan delignifikasi dengan NaOH 10% selama 5 jam serta penampakan NCC yang dihasilkan transparan, permukaan yang halus serta lebih mengkilap.
3. Semakin tinggi konsentrasi NCC dalam hidrogel maka kemampuan swelling pada hidrogel juga akan semakin tinggi dimana swelling ratio tertinggi dimiliki hidrogel dengan NCC 2% sebesar 385,14%.
4. Semakin tinggi konsentrasi NCC dalam hidrogel maka massa *methylene blue* yang dapat diserap hidrogel juga semakin banyak dimana kapasitas adsorpsi tertinggi dimiliki hidrogel dengan NCC 2% sebesar 2,1356 mg.

V.2 Saran

Saran untuk penelitian berikutnya:

1. Dari hasil penelitian penggunaan NaClO lebih baik dari H₂O₂ oleh karena itu penelitian berikut disarankan untuk mempelajari penggunaan NaClO lebih dalam.
2. Proses adsorpsi *methylene blue* oleh hidrogel alginat berbasis NCC perlu dipelajari lagi untuk mendapatkan kapasitas adsorpsi yang optimum

3. Perlu dipelajari lebih lanjut hidrogel alginat berbasis NCC terhadap kinetika adsorpsi dalam kinetika adsorpsi dan isotherm adsorpsi

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